UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,310	03/26/2004	Jeffrey J. Berkley	660119.401	9663

500 7590 08/22/2007

SEED INTELLECTUAL PROPERTY LAW GROUP PLLC
701 FIFTH AVE
SUITE 5400
SEATTLE, WA 98104

EXAMINER	
BECK, ALEXANDER S	
ART UNIT	**PAPER NUMBER**
2629	

MAIL DATE	DELIVERY MODE
08/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/811,310	BERKLEY ET AL.	
	Examiner	Art Unit	
	Alexander S. Beck	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 June 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,12-30,33-39,42 and 49-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *18-25* is/are allowed.

6)☒ Claim(s) *1-10,12-17,26-30,33-39,42 and 49-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Acknowledgment is made of the amendment filed by the applicant on June 4, 2007, in response to the non-final Office action mailed on January 4, 2007, and in which: claims 1, 4, 7, 9, 12, 13, 18-20, 29 and 38 are amended; claims 31, 32, 40, 41 and 43-48 are cancelled; new claims 49-56 are added; and the rejection of the claims are traversed. Claims 1-10, 12-30, 33-39, 42 and 49-56 are currently pending in U.S. Patent Application No. 10/811,310 and an Office action on the merits follows.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 9, 12-14, 16, 17, 26-28, 38, 39, 42, 49, 51, 52 and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,305,429 to Sato et al. (hereinafter "Sato").

As to claim 9, Sato discloses a haptic interface device in Figures 1-3 to provide haptic interaction to a user manipulating a tool, the haptic interface device comprising: an attachment point (10) configured to receive the tool; a plurality of not more than four cables (12-1, 12-2, 12-3, 12-4), each cable coupled at a respective first end to the attachment point; a plurality of tool

translation effecter devices (44, 46, 48), each having coupled thereto a second end of a respective one of the plurality of cables such that, as the attachment point moves relative to that tool translation effecter device, the cable coupled thereto is retracted or paid out accordingly, each tool translation effecter device configured to selectively vary a tension on the cable coupled thereto and to meter the cable as it is retracted and paid out; and a sensor array (42) associated with the attachment point and configured to provide signals corresponding to an orientation of the tool. (Sato at col. 4, ll. 6-27; col. 6, ln. 6 – col. 7, ln. 13.)

As to claim 49, Sato discloses in Figures 1-3 wherein each of the plurality of tool translation effecter devices (44, 46, 48) is positioned relative to each other such that each tool translation effecter devices occupies a vertex of a tetrahedron. (Sato at col. 4, ll. 6-27.)

As to claim 51, Sato discloses establishing means for establishing, during an initialization procedure, a distance between each of the tool translation effecter devices (44, 46, 48) and the attachment point (e.g. initially when no tension is applied via 44, 46, 48 and the user interface tool is in a starting position). (Sato at col. 4, ll. 6-56.)

As to claim 52, Sato discloses wherein the sensor array (42) is configured to provide signals corresponding to each of a roll, a pitch, and a yaw of the tool. (Sato at col. 4, ll. 6-27; col. 6, ln. 6 – col. 7, ln. 13.)

As to claim 12, Sato discloses a haptic device for operation by a user in Figures 1-3, comprising: a user interface tool (10) configured to be manipulated by the user and moved within a volume of space, and including a sensor array (42) configured to detect rotation of the user interface tool around an axis (e.g. the tool rotating about an axis in orbit); a first, a second, a third, and a fourth tool translation effecter device (14-1, 14-2, 14-3, 14-4), each coupled to

support structure positions such that the first, second, third, and fourth tool translation effecter devices define between them a tetrahedron within the volume of space, each of the tool translation effecter devices including a respective spool (38) and a respective encoder (42) configured to provide a signal corresponding to rotation of the respective spool; and a first, a second, a third, and a fourth cable (44, 46, 48) each having a respective first and a respective second end, the first end of each of the first, second, third, and fourth cables coupled to the user interface tool and the second end of the first, second, third, and fourth cables wound an unwound on the spool of a respective one of the tool translation effecter devices. (Sato at col. 3, ln. 59; col. 4, ll. 6-27; col. 6, ln. 6 – col. 7, ln. 13.)

As to claim 13, Sato discloses wherein the sensor array (42) is configured to detect rotation in each of three mutually perpendicular axes (e.g. the tool rotating about an axis in orbit). (Sato at col. 4, ll. 6-27; col. 6, ln. 6 – col. 7, ln. 13.)

As to claims 14 and 42, Sato discloses a processor system coupled to receive the signals from the sensor array and the respective encoders (e.g. 42), the processor system configured to determine movement of the tool (10) therefrom. (Sato at Figure 2.)

As to claim 26, Sato discloses wherein the processor system is configured to maintain a virtual environment within which the user interface tool (10) is operated, and to provide feedback from the virtual environment (e.g. via 44, 46, 48) to the user interface tool. (Sato at col. 6, ln. 30 – col. 7, ln. 41.)

As to claim 27, Sato discloses a remote tool (e.g. graphic on display), and wherein the processor system is configured to control operation of the remote tool in accordance with the movement and orientation of the user interface tool (10). (Sato at col. 6, ln. 30 – col. 7, ln. 41.)

As to claim 28, Sato discloses wherein the processor system is configured to provide feedback from the remote tool to the user interface tool (10) (e.g. via 44, 46, 48). (Sato at col. 6, ln. 30 – col. 7, ln. 41.)

As to claim 16, Sato discloses a motor (44, 46, 48) coupled to the respective spool (38), each of the motors operable to selectively apply tension to the respective cable (14-1, 14-2, 14-3, 14-4). (Sato at col. 6, ln. 65 – col. 7, ln. 7.)

As to claim 17, Sato discloses wherein the processor system is configured to establish an initial position of the tool by retracting, in turn, each of the first, the second, the third, and the fourth cables (14-1, 14-2, 14-3, 14-4) to a known length position (e.g. initially when no tension is applied via 44, 46, 48 and the user interface tool is in a starting position). (Sato at col. 4, ll. 6-56.)

As to claim 54, Sato discloses wherein the device comprises no more than four cables (14-1, 14-2, 14-3, 14-4). (Sato at Figure 1.)

As to claim 38, Sato discloses a method in Figures 1-3, comprising: applying tension to each of four cables (14-1, 14-2, 14-3, 14-4), each cable having a first end coupled to a tool (10) and having a second end coupled to a respective vertex of a tetrahedron such that, as the tool is moved closer to any of the vertices the respective cables are drawn in at the respective vertices, and as the tool is moved away from any of the vertices, the respective cables are fed out from the respective vertices; measuring a length of cable drawn in or fed out at each of the vertices; deriving a change of position of the tool on the basis of the measured length to each of the vertices of the tetrahedron; and measuring rotation of the tool about an axis (e.g. the tool rotating

about an axis in orbit) by receiving a signal from a sensor (42) operatively coupled to the tool. (Sato at col. 4, ll. 6-27; col. 6, ln. 6 – col. 7, ln. 13.)

As to claim 39, Sato discloses wherein the measuring rotation step comprises measuring rotation of the tool (10) about three mutually perpendicular axes (e.g. the tool rotating about an any one of the x/y/z axis in orbit). (Sato at col. 4, ll. 6-27; col. 6, ln. 6 – col. 7, ln. 13.)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato in view of U.S. Patent No. 5,440,476 to Lefkowitz et al. (hereinafter "Lefkowitz").

As to claim 15, note the above discussion of Sato with respect to claim 12. Sato does not disclose expressly compensating for changes in effective diameters of the spools of the first,

second, third, and fourth tool translation effecter devices due to changing thickness of cable on each of the spools as the respective cable is wound and unwound from the respective spool.

Lefkowitz brings up attention to a problem of changing ratio when using spools and cable for 3D positioning an object and suggests using compensating means. (Lefkowitz at col. 4, ll. 10-17.) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Sato such that compensating means were implemented, as taught/suggested by Lefkowitz, for the purpose of compensating a change in spool diameter and therefore improve the accuracy of measurements.

6. Claims 1, 3-6, 10, 29, 30, 33 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato in view of U.S. Patent No. 6,587,749 to Matsumoto (hereinafter "Matsumoto").

As to claim 1, Sato discloses a haptic interface device in Figures 1-3 to provide haptic interaction to a user manipulating a tool, the haptic interface device comprising: an attachment point (10); a first cable (12-1) having a first and a second end, the first end coupled to the attachment point; a first tool translation effecter device (44, 46, 48) having coupled thereto the second end of the first cable such that, as the attachment point moves, the first cable is retracted or paid out accordingly by the first tool translation effecter device, the first tool translation effecter device including controlling means (44, 46, 48) for selectively varying a tension on the first cable; metering means (42) for metering the first cable as it is retracted and paid out; and establishing means (Figure 2) for establishing, during an initialization procedure, a distance between the first tool translation effecter device and the attachment point (e.g. initially when no

tension is applied via 44, 46, 48 and the user interface tool is in a starting position). (Sato at col. 4, ll. 6-56; col. 6, ln. 6 – col. 7, ln. 13.)

Sato does not disclose expressly a brake configured to lock the first tool translation effecter device when electric current is removed therefrom. Matsumoto discloses an input device for a computer comprising a holding brake to hold the input device's position when a power supply is turned off (e.g. electric current is removed therefrom). (Matsumoto at col. 1, ll. 13-15.)

All of the component parts are known in Sato and Matsumoto. The only difference is the combination of the "old elements" into a single device by mounting them in a single computer input device.

Thus, it would have been obvious to a person having ordinary skill in the art to include a holding brake taught by Matsumoto into the haptic interface device as shown in Sato, since the operation of the holding brake is in no way dependent on the operation of the other equipment of the input device, and a holding brake could be used in combination with the haptic interface device of Sato to achieve the predictable result of locking the cables when current is removed therefrom.

As to claim 3, Sato discloses wherein the establishing means includes a controller configured to direct the first tool translation effecter device (44, 46, 48) to retract, during an initialization procedure, the first cable (12-1) until the attachment point (10) is at a selected position relative to the first tool translation effecter device (e.g. initially when no tension is applied via 44, 46, 48 and the user interface tool is in a starting position). (Sato at col. 4, ll. 6-56.)

As to claim 4, Sato as modified by Matsumoto teaches/suggests wherein the establishing means includes a memory configured to receive, after current is removed from the brake and prior to a complete shutdown of the device, a known distance, and to provide the known distance during a startup procedure (e.g. when the attachment point is retracted back to its original position, upon which power is removed from the brake prior to a shutdown of the haptic interface device; wherein the known distance from the original position of the attachment point and a vertex is memorized for the purposes of calculating a position of the attachment point once it is moved). (Sato at col. 4, ll. 6-56.)

As to claim 5, Sato discloses at least one sensor (42, Figure 2) configured to determine a position of the attachment point (10) relative to the first tool translation effecter device. (Sato at col. 4, ll. 6-27; col. 6, ln. 6 – col. 7, ln. 13.)

As to claim 6, Sato discloses means for reestablishing the distance from time to time during operation (e.g. updating section). (Sato at col. 7, ll. 14-33.)

As to claim 10, Sato discloses second and third cables (12-2, 12-3) coupled at respective first ends to the attachment point (10); and second and third tool translation effecter devices (44, 46, 48) positioned in a triangular configuration relative to each other and to the first tool translation effecter device. (Sato at Figures 1 and 3.)

As to claim 50, all of the claim limitations have already been discussed and met by Sato and Matsumoto as detailed in the above paragraphs with respect to claim 1.

As to claim 53, most of the claim limitations have already been discussed and met by Sato and Matsumoto as detailed in the above paragraphs with respect to claims 1 and 12, with the exception of second, third and fourth brakes. However, to provide second, third and fourth

brakes to the second, third and fourth translation effecter devices would have been within the purview of one of ordinary skill in the art because such a modification would be necessary to prevent movement of the attachment point and to effectively realize a holding brake in the haptic interface device.

As to claim 29, all of the claim limitations have already been discussed and met by Sato and Matsumoto as detailed in the above paragraphs with respect to claims 1, 3, 4 and 9.

As to claim 30, Sato discloses wherein establishing an initial length of cable comprises moving the tool in turn to each of the anchor points such that the length of cable between the tool and the respective anchor point is effectively zero; wherein it is understood that the movement of a tool is limited by vertices (anchors) and the initial lengths can be determined from the equation (1) when moving the tool up to the respective anchors, i.e. to bringing the tool effectively to the point P_0, where l_0=0 and l_1, l_2 and l_3 will constitute the initial lengths, then to the points P_1-P_3, etc.

As to claim 33, Sato discloses tracking a position of the tool; and correlating the position of the tool with known positions of the anchor points (e.g. as in the case of establishing any tracking lengths and positions of the tool).

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato and Matsumoto as applied to claims 1, 3-6, 10, 29, 30, 33 and 50 above and in further view of an article titled "Design of Tension Based Haptic Interface: SPIDAR-G", DSC-Vol. 69-2, Proceedings of ASME, 5-10 November 2000 (the reference provided with applicant's IDS filed on December 8, 2006, hereinafter "Kim") and Lefkowitz.

As to claim 2, all of the claim limitations have already been discussed and met by references Sato and Lefkowitz, as detailed in the above paragraphs with respect to claims 1 and 15, with the exception of metering means for counting fractions of rotations of the spool.

Sato determines the changing position of a tool based on a changing diameter of the pulleys connected to the tool from a cable. (Sato at col. 4, ll. 18-21.) Kim determines the changing position of a tool based on fractions of rotations of a pool connected to the tool from a cable. (Kim at p. 1246 and equations.) Because both Sato and Kim teach methods of determining the position of a tool based on a spool/pulley connected to the tool from a cable, it would have been obvious to one skilled in the art to substitute one method for the other to achieve the predictable result of determining a changing position of the tool.

8. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato and Matsumoto as applied to claims 1, 3-6, 10, 29, 30, 33 and 50 above, and further in view of U.S. Patent No. 6,704,001 to Schena et al. (hereinafter "Schena").

As to claims 7 and 8, Sato discloses second, third, and fourth cables coupled at respective firs tends to the attachment point; and second, third, and fourth tool translation effecter devices positioned, relative to each other and to the first tool translation effecter device, such that each of the first, second, third, and fourth tool translation effecter devices occupies a vertex of a tetrahedron. (Sato at col. 4, ll. 6-27; col. 6, ln. 6 – col. 7, ln. 13.)

Neither Sato nor Matsumoto discloses expressly a sensor array at the attachment point configured to provide signals corresponding to an orientation of the attachment point, wherein the sensor array is configured to provide signals corresponding to roll, pitch, and yaw of the attachment point.

Schena discloses an input device wherein an attachment point comprises a sensor array, wherein the sensor array is configured to provide signals corresponding to roll, pitch, and yaw of the attachment point. (Schena at col. 16, ln. 54 – col. 17, ln. 4.) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to further modify the teachings of Sato and Matsumoto such that the attachment point comprised a sensor array, as taught/suggested by Schena. The suggestion/motivation for doing so would have been because the accelerometer sensor array of Schena is in now way dependant upon the other components of the input device and to achieve the predictable result of determining a roll, pitch and yaw of the attachment point.

9. Claims 34-37 and 56 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Lefkowitz.

As to claims 34-37 and 56, Kim discloses a method comprising: applying tension to a cable having a first end and a second ends (string between P1 and vertices Q1 or Q2), the first end of the cable coupled to a tool (grip P) and the second end of the cable coupled to an anchor point; as the tool is moved closer to the anchor point, winding the cable onto a spool; as the tool is moved away from the anchor point unwinding the cable from the spool; and tracking a distance of the tool from the anchor point by counting fractional rotations of the spool as the cable is wound and unwound therefrom. (Kim at p. 1246 and equations.)

Kim does not disclose expressly compensating for changes in effective diameter of the spool as the effective diameter changes in response to the cable being wound and unwound therefrom.

Lefkowitz brings up attention to a problem of changing ratio when using spools and cable for 3D positioning an object and suggests using compensating means. (Lefkowitz at col. 4, ll. 10-17.) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Kim such that compensating means were implemented, as taught/suggested by Lefkowitz, for the purpose of compensating a change in spool diameter and therefore improve the accuracy of measurements.

10. Claim 55 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim and Lefkowitz as applied to claims 34-37 and 56 and further in view of Sato and Matsumoto.

As to claim 55, Sato discloses storing a value indicative of a known length of each of the cables in a memory; and recovering the value indicative of the known length of each of the cables from memory during a startup procedure. (See the rejections of claims 1, 3, 4 and 9.) Matsumoto discloses locking, during a shutdown procedure, each of the plurality of cables at the respective anchor point. (See the rejections of claims 1, 3, 4 and 9.)

Thus, it would have been obvious to a person having ordinary skill in the art to include a holding brake taught by Matsumoto into the teachings of Kim and Lefkowitz, since the operation of the holding brake is in no way dependent on the operation of the other equipment of the input device, and a holding brake could be used in combination with the teachings of Kim and Lefkowitz to achieve the predictable result of locking the cables when current is removed therefrom.

Moreover, it would have been obvious to a person having ordinary skill in the art to store a value indicative of a known length of each of the cables in a memory; and recover the value indicative of the known length of each of the cables from memory during a startup procedure.

The suggestion/motivation for doing so would have been such that a preset position of the tool was known and to determine a changing position of the tool with equations based on said preset position.

Allowable Subject Matter

11. Claims 18-25 are allowed.

Response to Arguments

12. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new grounds of rejection. Applicant's arguments with respect to claim 3 have been carefully considered but are not found to be persuasive, and it is believed that these arguments have been addressed in the rejection above. Applicant's arguments with respect to claims 7 and 8 have been considered but are moot in view of the new grounds of rejection.

13. Applicant's arguments with respect to claim 8 have been carefully considered but are not found to be persuasive. Applicant argues that Sato's encoders cannot provide signals corresponding to the orientation of its instruction point, but only to its position. (Remarks at p. 20.) Examiner respectfully disagrees. The encoders of Sato provide signals corresponding to the position of the instruction point, and thus corresponding to the orientation of the instruction point within the tetrahedron.

14. Applicant's arguments with respect to claims 2, 15 and 34-37 have been carefully considered but are not found to be persuasive. Applicant argues that the combination of Lefkowitz and Kim are not appropriate because they are not analogous in art. Examiner

respectfully disagrees. It is the examiner's position that Kim and Lefkowitz are analogous in art, as both are directed to user manipulated devices wherein a pulley/spool attached to a cable is analyzed to a position corresponding to the user manipulated device. Moreover, it is the examiner's position that it would have been within the purview of one of ordinary skill in the art to look to Lefkowitz for compensating a changing a diameter of the pulley/spool and thus achieves more accurate measurements.

15. Applicant's arguments with respect to claim 38 have been considered but are moot in view of the new grounds of rejection.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander S. Beck whose telephone number is (571) 272-7765. The examiner can normally be reached on M-F, 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

asb
August 19, 2007

AMARE MENGISTU
SUPERVISORY PATENT EXAMINER